Switch Design Accepted by Open Compute Project

AS6812-32X
40GbE Data Center Switch
Bare-Metal Hardware

Data Center Switch

Product Overview

The Edgecore AS6812-32X is a Top-of-Rack (TOR) or spine switch for high-performance data centers. In a compact 1RU form factor, the switch provides line-rate L2 and L3 switching across 32 x QSFP+ ports, supporting 32 x 40 GbE connections or 96 x 10 GbE + 8 x 40G connections. The AS6812-32X can be deployed as a TOR switch supporting 10 GbE or 40 GbE server connections, or as a spine switch supporting 10 GbE or 40 GbE spine interconnects. The AS6812-32X is a bare-metal switch loaded with the Open Network Install Environment (ONIE), which supports the installation of compatible open source and commercial Network Operating Systems for different network use cases and requirements.

Key Features and Benefits

■ Cost-effective, bare-metal switch infrastructure for data center fabric.

■ 32 fixed x 40 GbE QSFP+ switch ports in compact 1RU form factor, each supporting 40 GbE or 4 x 10 GbE via breakout cables. Maximum 24 x 40 GbE QSFP+ switch ports support breakout cables.

■ Layer 2 or Layer 3 forwarding of 2.56 Tbps full duplex.

■ Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.

■ All ports on front. PSUs and fans inserted from rear.

■ Hot swappable, load-sharing redudundant AC PSUs.

■ 4+1 redundant, hot-swappable fans modules.

■ Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated loading of compatible open source and commerical NOS offerings.
  Compatible with Open Network Linux (ONL), an open-source, OCP reference NOS.
  Compatible with Switch Light OS from Big Switch Networks and Big Cloud Fabric™ SDN applications
  Compatible with Cumulus® Linux® r3.2 and later version from Cumulus Networks®
  Compatible with SnapRoute CN-NOS, Cloud Native - NOS software
  Compatible with PicOS™ from Pica8 Inc

PICOS® POWERED BY PICA8   snaproute   big switch networks   CUMULUS   ONL CERTIFIED GOLD

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Features

Ports

Switch Ports:
  32 QSFP+ fixed ports: 40 GbE or 4 x 10 GbE per port
  Total switch capacity: 32 x 40 GbE
Management ports on port side:
  1 x RJ-45 serial console
  1 x RJ-45 100/1000BASE-T management port
  1 x USB Type A storage port

Key Components

Switch Silicon: Broadcom BCM56860 Trident II+ 1.28 Tbps
CPU Modules:
  Intel Atom C2538 quad-core 2.4GHz x86 processor
  8 GB SO-DIMM DDR3 RAM with ECC
  16 MB SPI flash
  32 GB mSATA

Performance

Switching Capacity: 2.56 Tbps full duplex
Forwarding Rate: 1.9 Bpps
Jumbo frames support up to 9216 Bytes
Packet Buffer Size: 16 MB integrated packet buffer
Subject to NOS:
MAC Addresses: 32 K min./288 max.
VLAN IDs: 4 K
IPv4: 16 K min./112 K max. host entries; 16K LPM entries with TCAM-only mode
IPv6: 8 K min./56 K max. host entries; IPv6/64=8 K TCAM-only mode

Supported Optics and Cables

QSFP+ Ports:
  40GBASE-CR4 DAC; 0.5 m to 5 m; passive and active
  40GBASE-CR4 DAC to 4 x SFP+ 10GBASE-CR DAC; 0.5 to 5 m
  40GBASE-SR4: Up to 100 m over OM3 MMF, 150 m over OM4 MMF
  40GBASE-SR4 to 4 x 10GBASE-SR: 100 m over OM3, 150 m OM4
  40GBASE-LR4: Up to 10 km over SMF

Physical and Environmental

Dimensions (WxDxH): 43.84 x 51.5 x 4.35 cm (17.26 x 20.28 x 1.71 in)
Weight: 9.65 kg (21.27 lb), with two installed PSUs
Fans: 4+1 redundant, hot-swappable
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Storage Temperature: -40°C to 70°C (-40°F to 158°F)
Operating Humidity: 5% to 95% non-condensing

Software

Switch is loaded with Open Network Install Environment (ONIE) software installer
Compatible with the following NOS options:
  Open Network Linux, the open-source, OCP reference NOS
  Switch Light OS from Big Switch Networks, and Big Cloud Fabric™ applications
  Cumulus® Linux® r3.2 and later version from Cumulus Networks®
  CN-NOS software from SnapRoute
  PicOS™ from Pica8 Inc

LEDs

40G QSFP+ Port LEDs: Link Status, Activity
Ethernet Management Port LED: Link Status, Activity
Console Port LED: Link Status
System LEDs: Diagnostic, Locator

Power

PSUs: 2 redundant, load-sharing, hot-swappable AC or -48 VDC
Input Voltage: 90 to 264 VAC at 50-60 Hz. -48 to -72 VDC.
Input Current: 10 A@100/120 VAC, 5 A@200/240 VAC
PSU Efficiency: Up to 93% for AC PSUs
Power input option: 12 VDC
Max Power: 370 W, 32 x 40GBASE-LR4, line rate traffic
Typical Power: 261 W, 32 x 40GBASE-SR4, line rate traffic
Typical Power (TOR): 227 W, 24 x passive QSFP DAC, 8 x 40GBASE-SR4, line rate traffic

Regulatory

EMI
  CE Mark (EN55022 Class A)
  FCC Part 15 Class A
  VCCI
Safety
  CB, EN 60950
  UL/CUL
Environmental:
  Temperature: IEC 68-2-14
  Drop: ISTA 2A
  RoHS-6 Compliant
  Vibration: IEC 68-2-36, IEC 68-2-6
  Shock: IEC 68-2-29
  Drop: Drop test: ISTA 2A
Country of Origin: Taiwan (TAA Compliant)

Warranty

Please check www.edge-core.com for the warranty terms in your country.

For More Information

To find out more about Edgecore Networks Corporation products and solutions, visit www.edge-core.com.

About Edgecore Networks Corporation

Edgecore Networks Corporation is in the business of providing innovative network solutions. In the service provider network, in the data center or in the cloud, Edgecore Networks Corporation delivers the software and systems that transform the way the world connects. Edgecore Networks Corporation serves customers and partners worldwide. Additional information can be found at www.edge-core.com.

Edgecore Networks Corporation is a subsidiary of Accton Technology Corporation, the leading network ODM company. The Edgecore Data Center switches are developed and manufactured by Accton.

To purchase Edgecore Networks solutions, please contact yourEdgecore Networks Corporation representatives at +886 3 563 8888 (HQ) or +1 (949)-336-6801 or authorized resellers.

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Ordering Information

Base Model: AS6812-32X 32-Port 40G QSFP+; ONIE software Installer

Model Number	CPU Module	PSU	Airflow	Region (power cord)
6812-32X-O-AC-F-US	Intel Atom® C2538 processor	dual AC PSUs	port-to-power airflow	N. America
6812-32X-O-AC-B-US	Intel Atom® C2538 processor	dual AC PSUs	power-to-port airflow	N. America
6812-32X-O-AC-F-EU	Intel Atom® C2538 processor	dual AC PSUs	port-to-power airflow	Europe
6812-32X-O-AC-B-EU	Intel Atom® C2538 processor	dual AC PSUs	power-to-port airflow	Europe
6812-32X-O-AC-F-UK	Intel Atom® C2538 processor	dual AC PSUs	port-to-power airflow	UK
6812-32X-O-AC-B-UK	Intel Atom® C2538 processor	dual AC PSUs	power-to-port airflow	UK
6812-32X-O-AC-F-JP	Intel Atom® C2538 processor	dual AC PSUs	port-to-power airflow	Japan
6812-32X-O-AC-B-JP	Intel Atom® C2538 processor	dual AC PSUs	power-to-port airflow	Japan
6812-32X-O-48V-F	Intel Atom® C2538 processor	dual -48V DC PSUs	port-to-power airflow	
6812-32X-O-48V-B	Intel Atom® C2538 processor	dual -48V DC PSUs	power-to-port airflow	
PSU-AC-400-F		400 W AC Power Supply FRU	port-to-power airflow	no power cord
PSU-AC-400-B		400 W AC Power Supply FRU	power-to-port airflow	no power cord
PSU-48V-400-F		-48 V DC Power Supply FRU	port-to-power airflow	no power cord
PSU-48V-400-B		-48 V DC Power Supply FRU	power-to-port airflow	no power cord
FAN-1U-1x1D-F		Fan Module FRU	port-to-power airflow	
FAN-1U-1x1D-B		Fan Module FRU	power-to-port airflow	

Model Number	Description
68XX-32X-SVC-RTF	AS68xx-32X series, Annual Hardware Service, Return-to-Factory, after warranty. 3 year warranty included already with the product, maximum 2 additional years per product.
ORSA-1U	Open Rack Switch Adapter, for mounting standard 19 inch form factor 1U switches into 21 inch Open Rack